

7.0 AOC 9 - NAYLOR FIELD

7.1 LOCATION OF STUDY AREA

Naylor Field comprises approximately six acres within the Cantonment Area at the Fort McClellan, Alabama Army Installation (Fig. 1). The study area boundary was devised by adding a 50-ft buffer outside of the Naylor Field site boundary.

7.2 AERIAL PHOTOGRAPH QUALITY ISSUES

A photograph quality issue was encountered during photograph interpretation. It was corrected as follows:

- X In many areas of the photographs, the dynamic range of brightness values was insufficient to distinguish land cover classes. Due to extreme brightness (almost white), ground cover such as grass, bare soil, trails and roads could not be differentiated. At other locations, extremely dark (nearly black) areas made it difficult to delineate grass from forested areas. Where appropriate, the problem areas of the photographs were subset and image enhancement techniques were applied. Simple adjustments to the brightness and contrast were conducted, or in more severe cases, a histogram equalization in the range of the lookup table was performed on the specific area where interpretation was difficult.

7.3 FINDINGS

Complete photographic coverage of the study area was available for eight years of photographic coverage from 1937 to 1994. A total of 120 anomalies were identified in the year-by-year land cover analysis (Fig. 2). All anomalies were inspected to ascertain the cause of each anomaly. Anomalies for which the cause could not be determined, as well as anomalies potentially associated with waste disposal or chemical training activities, were determined to be of potential concern and should be assessed by the USAESCH. During the final quality assurance review of the land use/cover anomalies, seven anomalies were determined to be photographic interpretation errors or anomaly numbering errors. These anomalies are identified as “QA” in Table 1 and will not be discussed further. Of the 113 true anomalies identified, 60 were the result of recurrent trails and unknown objects. The remaining 53 anomalies were the result of temporary trails, the clearing of trees and groundcover, and unidentified objects. These 53 anomalies are considered to be of potential concern.

1937. One anomalous area was identified in the 1937 photographs (see Table 1 and Fig. 3a). This anomaly was caused by a pre-existing road and is of potential concern.

1937 to 1940. Three anomalies were identified during the land cover change analysis for the years 1937 and 1940 (see Table 1 and Fig. 3b). One anomaly was the result of a pre-existing trail. The remaining two anomalies are of potential concern and were the result of a new trail (1 anomaly) and another cleared area (1 anomaly).

1940 to 1944. Eight anomalies were identified during the land cover change analysis for the years 1940 and 1944 (see Table 1 and Fig. 3c). Four anomalies were the result of pre-existing trails. The remaining four anomalies are of potential concern and were the result of new trails (4 anomalies).

1944 to 1954. Twenty-three anomalies were identified during the land cover change analysis for the years 1944 and 1954 (see Table 1 and Fig. 3d). Eleven of the anomalies were the result of pre-existing trails. The remaining twelve anomalies are of potential concern and were the result of new trails (5 anomalies), the clearing of trees (2 anomalies), and unidentified objects (5 anomalies).

1954 to 1961. Fifteen anomalies were identified during the land cover change analysis for the years 1954 and 1961 (see Table 1 and Fig. 3e). Nine anomalies were the result of pre-existing trails and unidentified objects. The six remaining anomalies are of potential concern and were the result of cleared areas (3 anomalies), new trails (2 anomalies), and the clearing of trees (1 anomaly).

1961 to 1969. Thirty-three anomalies were identified during the land cover change analysis for the years 1961 and 1969 (see Table 1 and Fig. 3f). Ten anomalies were caused by pre-existing trails. The twenty-three remaining anomalies are of potential concern and were the result of unidentified objects (12 anomalies), new trails (6 anomalies), and the clearing of trees (5 anomalies).

1969 to 1982. Thirty anomalies were identified during the land cover change analysis for the years 1969 and 1982 (see Table 1 and Fig. 3g). Twenty-five anomalies were caused by pre-existing roads and previous unidentified objects. The five remaining anomalies are of potential concern and were the result of the clearing of trees (5 anomalies).

1982 to 1994. There were no anomalies identified during the land cover change analysis for the years 1982 and 1994 (see Table 1 and Fig. 3h).

Figure 1

Figure 2

Table 1. Naylor Field - Anomaly Resolution

Of Concern?	Anomaly #	Year of Change	Discussion	Related Anomalies ¹
Yes	1	1937	Pre-existing trail	3, 5, 6, 12, 15, 17, 18, 20
Yes	2	1940	Cleared area (enlarged since 1937)	None
	3	1940	Pre-existing trail (first visible 1937)	1, 5, 6, 12, 15, 17, 18, 20
Yes	4	1940	Trail	9
	5	1944	Former trail; overgrown (first visible 1937)	1, 3, 6, 12, 15, 17, 18, 20
	6	1944	Pre-existing trail (first visible 1937)	1, 3, 5, 12, 15, 17, 18, 20
Yes	7	1944	Trail	15
	8	1944	QA	
	9	1944	Pre-existing trail (first visible 1940)	4, 15
Yes	10	1944	Trail	15
	11	1944	QA	
	12	1944	Pre-existing trail (first visible 1937)	1, 3, 5, 6, 15, 17, 18, 20
Yes	13	1944	Trail	22-24, 26, 48, 49
Yes	14	1944	Trail	31, 32, 34
	15	1954	Former trail; overgrown (first visible 1937)	1, 3, 5-7, 9, 10, 12, 17, 18, 20
Yes	16	1954	Unidentified object	37, 55
	17	1954	Former trail; overgrown (first visible 1937)	1, 3, 5, 6, 12, 15, 18, 20
	18	1954	Former trail; overgrown (first visible 1937)	1, 3, 5, 6, 12, 15, 17, 20
Yes	19	1954	Trail	47, 51, 85, 86, 87, 102
	20	1954	Pre-existing trail (first visible 1937)	1, 3, 5, 6, 12, 15, 17, 18
Yes	21	1954	Trail	21, 43, 45, 46, 64, 78, 79, 83, 95
	22	1954	Former trail; overgrown (first visible 1944)	13, 23, 24, 26, 48, 49
	23	1954	Former trail; overgrown (first visible 1944)	13, 22, 24, 26, 48, 49
	24	1954	Former trail; overgrown (first visible 1944)	13, 22, 23, 26, 48, 49
Yes	25	1954	Trail (widening of anomaly 13)	49
	26	1954	Pre-existing trail (first visible 1944)	13, 22-24, 48, 49
	27	1954	QA	
Yes	28	1954	Trees cleared	None

Of Concern?	Anomaly #	Year of Change	Discussion	Related Anomalies¹
Yes	29	1954	Trees cleared	None
Yes	30	1954	Trail	None
	31	1954	Former trail; overgrown (first visible 1944)	14, 32, 34
	32	1954	Pre-existing trail (first visible 1944)	14, 31, 34
Yes	33	1954	Trail	43, 79
	34	1954	Former trail; overgrown (first visible 1944)	14, 31, 32
Yes	35	1954	Unidentified object	53
Yes	36	1954	Unidentified object	54
Yes	37	1954	Unidentified object	16, 55
Yes	38	1954	Unidentified object	56
Yes	39	1961	Cleared area	None
Yes	40	1961	Trail	57-59, 61, 91, 92, 94
Yes	41	1961	Cleared area	None
Yes	42	1961	Cleared area	None
	43	1961	Pre-existing trail (first visible 1954)	21, 33, 45, 46, 64, 78, 79, 83, 95
	44	1961	QA	
	45	1961	Former trail; overgrown (first visible 1954)	21, 43, 46, 64, 78, 79, 83, 95
	46	1961	Former trail; overgrown (first visible 1954)	21, 43, 45, 64, 78, 79, 83, 95
	47	1961	Former trail; overgrown (first visible 1954)	19, 51, 85, 86, 87, 102
	48	1961	Pre-existing trail (first visible 1944)	13, 22-24, 26, 49
	49	1961	Pre-existing trail (first visible 1944)	13, 22-26, 48
Yes	50	1961	Trees cleared	
	51	1961	Former trail; overgrown (first visible 1954)	19, 47, 85-87, 102
Yes	52	1961	Trail	88, 89
	53	1961	Former unidentified object; removed (object first visible in 1954)	35
	54	1961	Former unidentified object; removed (object first visible in 1954)	36
	55	1961	Former unidentified object; removed (object first visible in 1954)	16, 37
	56	1961	Former unidentified object; removed (object first visible in 1954)	38

Of Concern?	Anomaly #	Year of Change	Discussion	Related Anomalies ¹
	57	1969	Pre-existing trail (first visible 1961)	40, 58, 59, 61, 91, 92, 94
	58	1969	Former trail; overgrown (first visible 1961)	40, 57, 59, 61, 91, 92, 94
	59	1969	Former trail; overgrown (first visible 1961)	40, 57, 58, 61, 91, 92, 94
Yes	60	1969	Trail	93
	61	1969	Former trail; overgrown (first visible 1961)	40, 57-59, 91, 92, 94
	62	1969	QA	
Yes	63	1969	Trail (pre-existing trail widened)	95
	64	1969	Pre-existing trail (first visible 1954)	21, 43, 45, 46, 78, 79, 83, 95
Yes	65	1969	Trail (former cleared area)	96, 97, 101, 107, 120
Yes	66	1969	Unidentified object	114
Yes	67	1969	Unidentified object	113
Yes	68	1969	Unidentified object	112
Yes	69	1969	Unidentified object	115
Yes	70	1969	Unidentified object	111
Yes	71	1969	Unidentified object	110
Yes	72	1969	Unidentified object	116
Yes	73	1969	Unidentified object	117
Yes	74	1969	Unidentified object	109
Yes	75	1969	Unidentified object	108
Yes	76	1969	Unidentified object	119
Yes	77	1969	Unidentified object	118
Yes	78	1969	Trail (extension of 1954 trail)	21, 43, 45, 46, 64, 79, 83, 95
	79	1969	Former trail; overgrown/area cleared (first visible 1954)	21, 33, 43, 45, 46, 64, 78, 83, 95
Yes	80	1969	Trees cleared	None
Yes	81	1969	Trees cleared	None
Yes	82	1969	Trees cleared	None
	83	1969	Former trail (first visible 1954)	21, 43, 45, 46, 64, 78, 79, 95
Yes	84	1969	Trees cleared	None
	85	1969	Pre-existing trail (first visible 1954)	19, 47, 51, 86, 87, 102

Of Concern?	Anomaly #	Year of Change	Discussion	Related Anomalies¹
Yes	86	1969	Trail	19, 47, 51, 85, 87, 102, 103
Yes	87	1969	Trail (extension of 1954 trail)	19, 47, 51, 85, 86, 102
	88	1969	Former trail; overgrown (first visible 1961)	52, 89
	89	1969	Former trail; overgrown (first visible 1961)	52, 88
Yes	90	1969	Trees cleared	None
	91	1982	Former trail; overgrown (first visible 1961)	40, 57-59, 61, 92, 94
	92	1982	Former trail; overgrown (first visible 1961)	40, 57-59, 61, 91, 94
	93	1982	Former trail; overgrown (first visible 1969)	60
	94	1982	Former trail; overgrown (first visible 1961)	40, 57-59, 61, 91, 92
	95	1982	Former trail; overgrown (first visible 1954)	21, 43, 45, 46, 63, 64, 78, 79, 83
	96	1982	Former trail; overgrown (first visible 1969)	65, 97, 101, 106, 107, 120
	97	1982	Former trail; overgrown (first visible 1969)	65, 96, 101, 107, 120
Yes	98	1982	Trees cleared	None
Yes	99	1982	Trees cleared	None
Yes	100	1982	Trees cleared	None
	101	1982	Former trail; overgrown (first visible 1969)	65, 96, 97, 101, 106, 107, 120
	102	1982	Former trail; overgrown (first visible 1954)	19, 47, 51, 85-87, 102
	103	1982	Former trail; overgrown (first visible 1969)	86
Yes	104	1982	Trees cleared	None
Yes	105	1982	Trees cleared	None
	106	1982	Former trail; overgrown (first visible 1969)	65, 96, 97, 101, 107, 120
	107	1982	Former trail; overgrown (first visible 1969)	65, 96, 97, 101, 106, 120
	108	1982	Former unidentified object; removed/overgrown (object first visible 1969)	75
	109	1982	Former unidentified object; removed/overgrown (object first visible 1969)	74
	110	1982	Former unidentified object; removed/overgrown (object first visible 1969)	71

Of Concern?	Anomaly #	Year of Change	Discussion	Related Anomalies ¹
	111	1982	Former unidentified object; removed/overgrown (object first visible 1969)	70
	112	1982	Former unidentified object; removed/overgrown (object first visible 1969)	68
	113	1982	Former unidentified object; removed/overgrown (object first visible 1969)	67
	114	1982	Former unidentified object; removed/overgrown (object first visible 1969)	66
	115	1982	Former unidentified object; removed/overgrown (object first visible 1969)	69
	116	1982	Former unidentified object; removed/overgrown (object first visible 1969)	72
	117	1982	Former unidentified object; removed/overgrown (object first visible 1969)	73
	118	1982	Former unidentified object; removed/overgrown (object first visible 1969)	77
	119	1982	Former unidentified object; removed/overgrown (object first visible 1969)	76
	120	1982	Former trail; overgrown (first visible 1969)	65, 96, 97, 101, 106, 107, 120

¹ Related anomalies refer to anomalies which are carried forward from year to year (e.g., a trail) or anomalies which change (e.g., the extension or widening of a trail or cleared area).

7.4 ANOMALIES OF POTENTIAL CONCERN

One hundred twenty anomalies were identified during the photographic interpretation of Naylor Field. Seven of the anomalies were photographic interpretation errors or anomaly numbering errors. Of the remaining 113 anomalies, 33 were associated with objects that were unidentifiable by the photographic interpreter. All of the remaining anomalies have been resolved. Fifty-three anomalies are of potential concern. To facilitate anomaly tracking, the anomalies of potential concern were mapped using the anomaly tracking number assigned in the year-by-year analysis (see Table 2 and Fig. 4). Table 2 provides information for each anomaly of potential concern including the anomaly tracking number, coordinates for the approximate center of the anomaly (coordinates provided in Alabama State Plane East, North American Datum [NAD] 83), the year the change occurred, and the reason for the anomaly.

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Fig. 3a

Fig. 3b

Fig. 3c

Fig. 3d

Fig. 3e

Fig. 3f

Fig. 3g

Fig. 3h

Table 2. Naylor Field - Anomalies of Concern

Anomaly #	Alabama State Plane Coordinates (approximate anomaly center)		Year of Change	Discussion
	X-Coordinate	Y-Coordinate		
1	670222.95436	1166531.62825	1937	Pre-existing trail. The trail is present in photographs acquired in 1937, 1940, 1944, and 1954. Between 1954 and 1961, the area was cleared of all ground cover.
2	670121.37359	1166453.85547	1940	This small cleared area was enlarged between 1937 and 1940. The area was reforested by 1944.
4	670230.89035	1166633.20901	1940	The 1940 photographs show a new trail in this area. The trail is evident in the 1944 photographs, but is not evident in photographs acquired in future years.
7	670111.85039	1166644.31941	1944	The 1944 photographs show a new trail in this area. The trail is evident in the 1954 photographs, but is not evident in photographs acquired in future years.
10	670341.99432	1166601.46502	1944	The 1944 photographs show a new trail in this area. The trail is evident in the 1954 photographs, but is not evident in photographs acquired in future years.
13	670526.10947	1166282.43792	1944	The 1944 photographs show a new trail in this area. The trail is in the photographs acquired from 1944 through 1994.
14	670146.76878	1166071.34038	1944	The 1944 photographs show a new trail in this area. The trail is evident in the 1954 photographs, but is not evident in photographs acquired in future years.
16	670311.83753	1166504.64585	1954	An unidentified object is evident in the 1954 photographs. The object was removed from the site between 1954 and 1961.
19	670441.98789	1166558.61064	1954	The 1954 photographs show a new trail in this area. The trail is evident in photographs acquired in 1961 and 1969. By 1982, reforestation had occurred within this area.
21	670337.23272	1166006.26520	1954	The 1954 photographs show a new trail in this area. The trail is evident in photographs acquired in 1961 and 1969 with minor differences in trail width. By 1982, reforestation had occurred within this area.
25	670545.15586	1166255.45553	1954	The 1954 photographs show the widening of the trail discussed in anomaly of potential concern 13.
28	670343.58152	1166353.86190	1954	Trees were cleared from this area prior to the acquisition of the 1954 photographs. The area remained cleared of ground cover until 1982 when reforestation was evident.
29	670283.26794	1166303.07151	1954	Trees were cleared from this area prior to the acquisition of the 1954 photographs. The area remained cleared of ground cover until 1982 when reforestation is evident.
30	670134.07118	1166355.44910	1954	The 1954 photographs show a new trail in this area. The trail is also evident in the photographs acquired in 1961 and 1969 with minor differences in trail width. By 1982, reforestation had occurred.
33	670337.23272	1165920.55643	1954	The 1954 photographs show a new trail in this area. The trail is also evident in the photographs acquired in 1961 and 1969 with minor differences in trail width. By 1982, reforestation had occurred.

Anomaly #	Alabama State Plane Coordinates (approximate anomaly center)		Year of Change	Discussion
	X-Coordinate	Y-Coordinate		
35	670237.23915	1166464.96587	1954	An unidentified object is evident in the 1954 photographs. The object was removed from the site between 1954 and 1961.
36	670284.85514	1166493.53546	1954	An unidentified object is evident in the 1954 photographs. The object was removed from the site between 1954 and 1961.
37	670313.42473	1166515.75625	1954	An unidentified object is evident in the 1954 photographs. The object was removed from the site between 1954 and 1961.
38	670341.99432	1166522.10505	1954	An unidentified object is evident in the 1954 photographs. The object was removed from the site between 1954 and 1961.
39	670015.03122	1166568.13383	1961	This area was cleared between 1954 and 1961. By 1969, a trail was cut through this area and reforestation had begun around the trail. By 1982, the area was completely reforested.
40	670135.65838	1166626.86022	1961	In 1961, a new trail is evident in this area. The trail remained evident in the 1969 photographs. By 1982, reforestation of the trail was underway.
41	670213.43116	1166541.15144	1961	This large area was cleared between 1954 and 1961. Portions of the area remained active in 1969 and 1982. By 1994, reforestation was underway.
42	670184.86157	1166369.73389	1961	This area was cleared between 1954 and 1961. The area was maintained through 1969; however, by 1982, the area was becoming reforested.
50	670400.72070	1166358.62350	1961	Trees were cleared from this area between 1954 and 1961. The 1969 photographs show that much of this area was maintained (no tree cover). By 1982, the area had become reforested.
52	670440.40069	1166647.49381	1961	A new trail is evident in this area between 1954 and 1961. By 1969, vegetation regrowth was underway and by 1982, the area was reforested.
60	670002.33362	1166558.61064	1969	A new trail is evident in this area in the 1969 photographs. The 1982 photographs show the area as reforested and the trail no longer evident.
63	670061.06001	1166390.36749	1969	The 1969 photographs show the widening of the trail discussed as anomaly of potential concern 21. The widened area had become reforested by 1982.
65	670337.23272	1166490.36106	1969	A new trail is evident in the 1969 photographs. The area was previously cleared (1961). By 1982, the area had become reforested and the trail was no longer evident.
66	670273.74474	1166468.14026	1969	An unidentified object is evident in the 1969 photographs. The object was removed from the site prior to the acquisition of the 1982 photographs.
67	670266.25514	1166479.80771	1969	An unidentified object is evident in the 1969 photographs. The object was removed from the site prior to the acquisition of the 1982 photographs.
68	670258.57096	1166501.64696	1969	An unidentified object is evident in the 1969 photographs. The object was removed from the site prior to the acquisition of the 1982 photographs.

Anomaly #	Alabama State Plane Coordinates (approximate anomaly center)		Year of Change	Discussion
	X-Coordinate	Y-Coordinate		
69	670275.15262	1166513.77988	1969	An unidentified object is evident in the 1969 photographs. The object was removed from the site prior to the acquisition of the 1982 photographs.
70	670242.39374	1166510.54444	1969	An unidentified object is evident in the 1969 photographs. The object was removed from the site prior to the acquisition of the 1982 photographs.
71	670234.70955	1166531.57483	1969	An unidentified object is evident in the 1969 photographs. The object was removed from the site prior to the acquisition of the 1982 photographs.
72	670251.69564	1166541.68560	1969	An unidentified object is evident in the 1969 photographs. The object was removed from the site prior to the acquisition of the 1982 photographs.
73	670232.68740	1166568.78245	1969	An unidentified object is evident in the 1969 photographs. The object was removed from the site prior to the acquisition of the 1982 photographs.
74	670220.55448	1166551.79636	1969	An unidentified object is evident in the 1969 photographs. The object was removed from the site prior to the acquisition of the 1982 photographs.
75	670205.99498	1166569.99574	1969	An unidentified object is evident in the 1969 photographs. The object was removed from the site prior to the acquisition of the 1982 photographs.
76	670105.50159	1166476.07626	1969	An unidentified object is evident in the 1969 photographs. The object was removed from the site prior to the acquisition of the 1982 photographs.
77	670126.13519	1166460.20427	1969	An unidentified object is evident in the 1969 photographs. The object was removed from the site prior to the acquisition of the 1982 photographs.
78	670321.36073	1166182.44435	1969	A new extension to the trail identified as anomaly of potential concern 21 is evident in the 1969 photographs. By 1982, the area had become reforested and the trail was no longer evident.
80	670299.13993	1165944.36442	1969	Trees were cleared from this area between 1961 and 1969. By 1982, the area had become reforested.
81	670359.45352	1165944.36442	1969	Trees were cleared from this area between 1961 and 1969. By 1982, the area had become reforested.
82	670362.62791	1166011.02680	1969	Trees were cleared from this area between 1961 and 1969. By 1982, the area had become reforested.
84	670445.16229	1166172.92115	1969	Trees were cleared from this area between 1961 and 1969. By 1982, the area had become reforested.
86	670426.11590	1166477.66346	1969	A new trail was evident in this location in 1969. This area had been cleared of trees previously (the northern portion of anomaly of concern 50). By 1982, the trail was no longer evident and the area had become reforested
87	670416.59270	1166582.41863	1969	A new extension to the trail identified as anomaly of potential concern 19 is evident in the 1969 photographs. By 1982, the area had become reforested and the trail was no longer evident.

Anomaly #	Alabama State Plane Coordinates (approximate anomaly center)		Year of Change	Discussion
	X-Coordinate	Y-Coordinate		
90	670413.41830	1166663.36581	1969	Trees were cleared from this area between 1961 and 1969. By 1982, reforestation was underway and by 1994, the area was completely reforested.
98	670273.74474	1166584.00583	1982	A few trees were cleared from this area between 1969 and 1982. By 1994, the area had become reforested.
99	670361.04072	1166558.61064	1982	A few trees were cleared from this area between 1969 and 1982. By 1994, the area had become reforested.
100	670338.81992	1166641.14501	1982	A few trees were cleared from this area between 1969 and 1982. By 1994, the area had become reforested.
104	670445.16229	1166637.97061	1982	A few trees were cleared from this area between 1969 and 1982. By 1994, the area had become reforested.
105	670388.02311	1166649.08101	1982	A few trees were cleared from this area between 1969 and 1982. By 1994, the area had become reforested.

Fig. 4